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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/526,173 | 03/15/2000 | Isao Imamura | 1714.0029 | 9971 |

5514 7590 06/18/2003

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NEW YORK, NY 10112

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| EXAMINER |
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TUGBANG, ANTHONY D

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| ART UNIT | PAPER NUMBER |
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3729

DATE MAILED: 06/18/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/526,173

Applicant(s)

IMAMURA, ISAO

Examiner

A. Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 1-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 4/16/03 (Paper No. 14) for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 09/526,173 is acceptable and a CPA has been established. An action on the CPA follows.

Election/Restrictions

2. Claim 7 continues to stand as being withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-6, drawn to a method of making an ink-jet recording head by exposing the first active energy setting materials through a second application of light with a second mask, classified in class 29, subclass 890.1.
- II. Claim 8, drawn to a method of making an ink-jet recording head with a removable liquid path pattern and only one single mask, classified in class 29, subclass 611.

The inventions are distinct, each from the other because of the following reasons:

4. Inventions of Groups I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention of Group I has separate utility such as the second application of light and a second mask. See MPEP § 806.05(d).

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5. Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

6. Currently amended Claims 1-6 are directed to an invention that is independent or distinct from the invention originally claimed for the reasons set forth above.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, Claims 1-6 have been withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyagawa et al 5,458,254, referred to hereinafter as Miyagawa'254, in view of Miyagawa et al 5,331,344, referred to hereafter as Miyagawa'344.

Miyagawa'254 discloses a method of manufacturing an ink jet recording head comprising: preparing a base plate 1 having an ink ejection pressure generating element 2 (in Fig. 1) and a liquid path pattern 4, which is removable (see results of Figs. 6 and 7), located on a part of the base plate; with the use of a soluble resin (see col. 9, lines 50-55); applying a first

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active energy setting material (resin film 5) on the base plate and the liquid path pattern (see Fig. 3); applying an ink-repellent second active energy setting material (resist 6) on the first active energy setting material in a process (see Fig. 4); exposing the first active and the ink-repellent second active energy setting materials in a process to expose both materials corresponding to an ink ejection port (shown in Fig. 5); and developing the first active and the ink-repellent second active energy setting materials with an aqueous solution (see col. 16, lines 41-46) to form the ejection port 7 above the ink ejection pressure generating elements 2 (see Fig. 6).

Miyagawa'254 teaches substantially all of the limitations of the claimed manufacturing method except that the step of exposing is by applying light through a mask.

Miyagawa'344 teaches forming an equivalent liquid path pattern (photosensitive layer 3 in Fig. 2) on a base plate 1 by applying light through a mask 4 (see Fig. 3) and afterwards developing the liquid path pattern 3 (see col. 12, lines 24-37). One such advantage of the above process provides for a liquid path pattern that has a high production yield (see col. 2, lines 10-14).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the exposing step of Miyagawa'254 by applying light through a mask, as taught by Miyagawa'344, to positively provide a liquid path pattern that has a high production yield.

Response to Arguments

9. Applicant's arguments filed 3/11/03 (Paper No. 11) have been fully considered but have not been deemed to be found as persuasive.

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In regards to the merits of the prior art, the applicants' contend that the prior art does not teach exposing the first active energy setting material and the ink-repellent second active energy setting material in a process by an application of light to both of the materials through a mask corresponding to the ejection port for ink.

The examiner most respectfully traverses in that the above feature was relied upon in Miyagawa'344. Miyagawa'344 clearly shows a mask 4 and the application of light (in Fig. 3) in forming a liquid path pattern and subsequently developing both materials for the advantages discussed above. The exposure processes of both Miyagawa'344 and Miyagawa'254 are each to form art recognized equivalent ink-jet heads. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

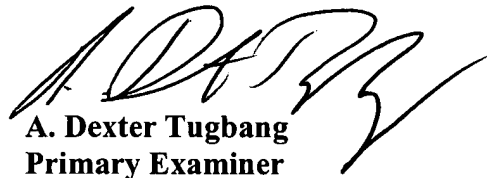
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.



A. Dexter Tugbang
Primary Examiner
Art Unit 3729

June 13, 2003